

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Civil No. 07-1048 RHK/AJB

UNITED STATES OF AMERICA,)	
)	
Plaintiff,)	
)	
v.)	CONSENT DECREE
)	
RANDY JOHNSON,)	
)	
Defendant.)	

WHEREAS, the Plaintiff, the United States of America, on behalf of the United States Army Corps of Engineers ("Corps"), in relevant part, filed the Complaint herein against Defendant Randy Johnson ("Defendant"), alleging that Defendant violated Section 301(a) of the Clean Water Act ("CWA"), 33 U.S.C. § 1311(a);

WHEREAS, the Complaint alleges that Defendant violated Section 301(a) of the CWA by discharging dredged or fill material and/or controlling or directing the discharge of dredged or fill material into waters of the United States at a site located in Olmsted County, Minnesota (the "Site") and more fully described in the Complaint, without authorization by the United States Department of the Army ("the Corps");

WHEREAS, the Complaint seeks (1) to enjoin the discharge of pollutants into waters of the United States in violation of CWA Section 301(a), 33 U.S.C. § 1311(a); (2) to require

Defendant, at his own expense and at the direction of the Corps, to restore and/or mitigate the damages caused by his unlawful activities; and (3) to require Defendant to pay civil penalties as provided in 33 U.S.C. § 1319(d);

WHEREAS, this Consent Decree is intended to constitute a complete and final settlement of the United States' claims against the Defendant under the CWA set forth in the Complaint regarding the Site;

WHEREAS, the United States and Defendant agree that settlement of the United States' claims against this Defendant is in the public interest and that entry of this Consent Decree is the most appropriate means of resolving the United States' claims under the CWA against the Defendant in this case; and

WHEREAS, the Court finds that this Consent Decree is a reasonable and fair settlement of the United States' claims against Defendant, and that this Consent Decree adequately protects the public interest in accordance with the CWA and other applicable federal law.

THEREFORE, before the taking of any testimony, without further adjudication of any issue of fact or law, and upon consent of the parties hereto by their authorized

representatives, it is hereby ORDERED, ADJUDGED and DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of these actions and over the parties pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 309(b) of the CWA, 33 U.S.C. § 1319(b).
2. Venue is proper in the District of Minnesota pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1391(b) and (c), because the subject property is located in this District and the causes of action alleged herein arose in this District.
3. The Complaint states claims upon which relief can be granted pursuant to Sections 301, 309 and 404 of the CWA, 33 U.S.C. §§ 1311, 1319 and 1344.

II. APPLICABILITY

4. The obligations of this Consent Decree shall apply to and be binding upon Defendant and his successors and assigns and any person, firm, association or corporation who is, or will be, acting in concert or participation with the Defendant whether or not such

person has notice of this Consent Decree. In any action to enforce this Consent Decree against the Defendant, the Defendant shall not raise as a defense the failure of any of his employees, successors or assigns or any person, firm or corporation acting in concert or participation with the Defendant, to take any actions necessary to comply with the provisions this Consent Decree.

5. The transfer of ownership or other interest in the Site shall not alter or relieve Defendant of his obligation to comply with all of the terms of this Consent Decree. At least fifteen (15) days prior to the transfer of ownership or other interest in the Site, the party making such transfer shall provide written notice and a true copy of this Consent Decree to the proposed successors in interest and shall simultaneously notify the Corps and the United States at the addresses specified in Section XII below that such notice has been given. As a condition to any such transfer, the Defendant making the transfer shall reserve all rights necessary to comply with the terms of this Consent Decree.

III. SCOPE OF CONSENT DECREE

6. This Consent Decree shall constitute a complete and final settlement of all civil claims for injunctive relief and civil penalties alleged in the Complaint against the Defendant under Section 301 of the CWA concerning the Site.
7. It is the express purpose of the parties in entering this Consent Decree to further the objectives set forth in Section 101 of the CWA, 33 U.S.C. § 1251. All plans, restoration work, monitoring programs, and other obligations in this Consent Decree or resulting from the activities required by this Consent Decree shall have the objective of causing Defendant to achieve and maintain full compliance with, and to further the purposes of, the CWA.
8. Except as in accordance with this Consent Decree, Defendant and Defendant's agents, successors and assigns are enjoined from discharging any pollutant into waters of the United States, unless such discharge complies with the provisions of the CWA and its implementing regulations.

9. This Consent Decree is not and shall not be interpreted to be a permit or modification of any existing permit issued pursuant to Sections 402 or 404 of the CWA, 33 U.S.C. §§ 1342 or 1344, or any other law. Nothing in this Consent Decree shall limit the ability of the Corps to issue, modify, suspend, revoke or deny any individual permit or any nationwide or regional general permit, nor shall this Consent Decree limit the EPA's ability to exercise its authority pursuant to Section 404(c) of the CWA, 33 U.S.C. § 1344(c).
10. This Consent Decree in no way affects or relieves Defendant of his responsibility to comply with any applicable federal, state, or local law, regulation or permit.
11. This Consent Decree in no way affects the rights of the United States as against any person not a party to this Consent Decree.
12. The United States reserves any and all legal and equitable remedies available to enforce the provisions of this Consent Decree and applicable law.

13. Except as provided in Paragraphs 1, 2 and 3 above, nothing in this Consent Decree shall constitute an admission of fact or law by any party.

IV. CIVIL PENALTIES

14. Within 30 days of notifying the Corps of completion of work required by Section V, but no later than October 1, 2007, Defendant shall commence payment of a civil penalty to the United States in the amount of Fifteen Thousand Dollars (\$15,000.00). The penalty shall be made in three payments as follows: \$5000.00 on or before October 1, 2007; \$5000.00 on or before April 1, 2008; and \$5000.00 on or before October 1, 2008.
15. Defendant shall make the above-referenced payment by payment to the U.S. Attorney's Office, 300 South Fourth Street, Suite 600, Minneapolis, MN 55415, Attention: Financial Litigation Unit, referencing Case Number 07-1048 RHK/AJB. Payment shall be made in accordance with instructions provided to the Defendant by the Financial Litigation Unit of the United States Attorney's Office for the District of Minnesota. Any payments received by the United

States after 4:00 p.m. (CST) will be credited on the next business day.

16. Upon payment of the civil penalty required by this Consent Decree, Defendant shall provide written notice by certified mail, at the addresses specified in Section XII of this Consent Decree, that such payment was made in accordance with Paragraph 15.
17. Civil penalty payments pursuant to this Consent Decree (including stipulated penalty payments under Section XI) are penalties within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f), or of 26 C.F.R. § 1.162-21 and are not tax deductible expenditures for purposes of federal law.

V. RESTORATION

18. The parties agree that Defendant will implement the "Reconfigured Stream Channel Stabilization" alternative in the "Stream Stabilization Plan" dated June 2007, and attached as Exhibit A. The Reconfigured Stream Channel Stabilization is detailed in Paragraph 3.3. and Figures 1-4 of the Stream Stabilization Plan, and includes four

components: (1) Bank Reshaping; (2) Bank Riprap; (3) Grade Control Structures; and (4) Vegetation Establishment.

19. For Vegetation Establishment, Defendant shall hire a nursery or landscape architect to identify best management practices and suitable plant species for the specific conditions of the site. Only species native to the region shall be used. All disturbed and exposed areas at the Site shall be stabilized so exposed soil does not erode into Tompkins Creek. Possible measures for stabilization include seeding (including an annual cover crop), erosion blankets, and mulch. Defendant shall submit the plan for vegetation establishment to the Corps by August 15, 2007. Within 21 days of receipt of the plan, the Corps shall either approve the plan or provide comments as to the changes needed to make the plan acceptable. Within 14 days of receiving comments from the Corps, Defendant shall submit a revised plan to the Corps for the Corps' approval. Defendant shall not begin vegetation establishment

prior to receiving the Corps' approval on the vegetation establishment plan.

20. Defendant shall complete the first three (3) components of the Reconfigured Stream Channel Stabilization (e.g. bank reshaping; bank riprap; and grade control structures) no later than August 31, 2007. At least seven (7) days prior to beginning construction on the first three (3) components, Defendant shall notify the Corps by certified mail of the date that construction is to begin. Defendant shall also notify the Corps by certified mail within two (2) days of when construction of the first three components is complete.
21. Defendant shall complete the fourth component of the Reconfigured Stream Channel Stabilization (e.g. Vegetation Establishment) no later than September 30, 2007. At least seven (7) days prior to beginning vegetation establishment, Defendant shall notify the Corps by certified mail of the date that vegetation establishment is to begin. Defendant shall also notify the Corps by certified mail within two (2) days of when implementation of the

vegetation establishment plan (see paragraph 19) is complete.

VI. MONITORING and RIGHT OF ENTRY

22. Until termination of this Consent Decree, the United States and its authorized representatives and contractors shall have authority at all reasonable times to enter the Defendant's premises to: monitor the activities required by this Consent Decree; verify any data or information submitted to the United States; obtain samples; inspect and evaluate Defendant's restoration activities; and inspect and review any records required to be kept under the terms and conditions of this Consent Decree and the CWA. The United States shall provide 24 hours notice to Defendant prior to entering the property; notice by mail, phone conversation, or phone message is deemed sufficient.
23. The United States intends to inspect the implementation of the Reconfigured Stream Channel Stabilization during and following construction. However, if the United States does not inspect the Site, this in no way relieves Defendant of

compliance with the Reconfigured Stream Channel Stabilization or implementation of required corrective measures (see Section VII).

24. Following implementation of the Reconfigured Stream Channel Stabilization, the United States intends to inspect the Site one to two (1 to 2) times each spring and one to two (1 to 2) times each fall for five (5) years. The site inspections are intended to monitor how the channel is handling bankfull (i.e. high flow) events, whether the vegetation establishment is successful, and to determine if corrective measures are needed (see Section VII). If the United States determines that the restoration is successful, it may, at its sole discretion, terminate the right of entry.
25. The provisions in this Section are in addition to, and in no way limits or otherwise affects, the statutory authorities of the United States to conduct inspections, to require monitoring, and to obtain information from the Defendant as authorized by law.

VII. CORRECTIVE MEASURES

26. Defendant is responsible for ensuring that the Reconfigured Stream Channel Stabilization is implemented as specified in the Stream Stabilization Plan. It is customary for the Defendant to hire a consultant to prepare his own plan, however in this case the Corps prepared a plan in an attempt to facilitate settlement. Defendant hereby adopts the plan prepared by the Corps as his own, and acknowledges that he is responsible for correcting any deficiencies, whether due to the design or the implementation of the plan. The Corps is not liable for any damages caused by the plan, nor any corrective measures required to successfully stabilize the channel and surrounding area.
27. If the Corps determines that corrective measures are needed to stabilize the channel and/or successfully implement the Reconfigured Stream Channel Stabilization, it will provide the required corrective measures to Defendant by certified mail. Defendant shall implement the corrective measures within 30 days of receipt of the required corrective

measures, or by a later date specified by the Corps. Defendant shall notify the Corps by certified mail within two (2) days of when the corrective measures are completed.

28. Possible corrective measures include, but are not limited to, reseeding or planting vegetation, placement of additional riprap, moving riprap, additional grade control structures, and additional erosion control measures.

VIII. RETENTION OF RECORDS

29. Until one year after the Termination of this Consent Decree as specified in Section XVII below, Defendant shall preserve and retain all records and documents now in his possession or control or which come into his possession or control that relate in any manner to the performance of the tasks in Sections V and VII of this Consent Decree. Until one year after the Termination of this Consent Decree, Defendant shall also instruct his contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to the performance of the tasks in Sections V and VII.

30. At the conclusion of the document retention period, Defendant shall notify the United States at least 90 days prior to the destruction of any such records or documents, and, upon request by the United States, Defendant shall deliver any such records or documents to Corps. The Defendant may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Defendant assert such a privilege, he shall provide the United States with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendant. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

IX. DISPUTE RESOLUTION

31. Any dispute that arises with respect to the meaning or requirements of this Consent Decree shall be, in the first instance, the subject of informal negotiations between the United States and Defendant to resolve such dispute. The period for informal negotiations shall not extend beyond thirty (30) days beginning with written notice by one party to the other party that a dispute exists, unless agreed to in writing by the parties. If a dispute between the United States and Defendant cannot be resolved by informal negotiations, then the position advanced by the United States shall be considered binding unless, within fourteen (14) days after the end of the informal negotiations period, the Defendant files a motion with the Court seeking resolution of the dispute. The motion shall set forth the nature of the dispute and a proposal for its resolution. The United States shall have thirty (30) days to respond to the motion and propose an alternate resolution. In resolving any such dispute, the Defendant shall bear the burden of

proving by a preponderance of the evidence that the United States' position is not in accordance with the terms, conditions, and objectives of this Consent Decree and the CWA, and that the Defendant's position will achieve compliance with the terms and conditions of this Consent Decree and the CWA.

32. If the United States believes that a dispute is not a good faith dispute, or that a delay would pose or increase a threat of harm to the public or the environment, it may move the Court for a resolution of the dispute prior to the expiration of the thirty (30) day period for informal negotiations. The Defendant shall have fourteen (14) days to respond to the motion and propose an alternate resolution. In resolving any such dispute, the Defendant shall bear the burden of proving by a preponderance of the evidence that the United States' position is not in accordance with the terms, conditions, and objectives of this Consent Decree, and that the Defendant's position will achieve compliance with the terms and conditions of this Consent Decree and the CWA.

33. The filing of a motion asking the Court to resolve a dispute shall not extend or postpone any obligation of Defendant under this Consent Decree, except as provided in Paragraph 41 below regarding payment of stipulated penalties.

X. FORCE MAJEURE

34. Defendant shall perform the actions required under this Decree within the time limits set forth or approved herein, unless the performance is prevented or delayed solely by events which constitute a Force Majeure event. A Force Majeure event is defined as any event arising from causes beyond the control of Defendant, including his employees, agents, consultants and contractors, which could not be overcome by due diligence and which delays or prevents the performance of an action required by this Consent Decree within the specified time period. A Force Majeure event does not include, inter alia, increased costs of performance, changed economic circumstances, changed labor relations, normal precipitation or climate events, changed circumstances arising out of the sale, lease or

other transfer or conveyance of title or ownership or possession of a site, or failure to obtain federal, state or local permits.

35. If Defendant believes that a Force Majeure event has affected Defendant's ability to perform any action required under this Consent Decree, Defendant shall notify the United States in writing within seven (7) calendar days after the commencement of the event at the addresses listed in Section XI. Such notice shall include a discussion of the following: what action has been affected; the specific cause(s) of the delay; the length or estimated duration of the delay; and any measures taken or planned by the Defendant to prevent or minimize the delay and a schedule for the implementation of such measures. Defendant may also provide to the United States any additional information that he deems appropriate to support their conclusion that a Force Majeure event has affected his ability to perform an action required under this Consent Decree. Failure to provide timely and complete notification to the

United States shall constitute a waiver of any claim of Force Majeure as to the event in question.

36. If the United States determines that the conditions constitute a Force Majeure event, then the deadline for the affected action shall be extended by the amount of time of the delay caused by the Force Majeure event. Defendant shall coordinate with the Corps to determine when to begin or resume the operations that had been affected by any Force Majeure event.
37. If the parties are unable to agree whether the conditions constitute a Force Majeure event, or whether the length of time for fulfilling the provision of the Consent Decree at issue should be extended, any party may seek a resolution of the dispute under the procedures in Section IX of this Consent Decree.
38. Defendant shall bear the burden of proving (1) that the noncompliance at issue was caused by circumstances entirely beyond the control of Defendant and any entity controlled by Defendant, including his contractors and consultants; (2) that

Defendant or any entity controlled by Defendant could not have foreseen and prevented such noncompliance; and (3) the number of days of noncompliance that were caused by such circumstances.

XI. STIPULATED PENALTIES

39. After entry of this Consent Decree, if Defendant fails to timely fulfill any requirement of the Consent Decree, including but not limited to the requirements of Section V above, the Defendant shall pay a stipulated penalty to the United States for each violation of each requirement of this Consent Decree as follows:

- A. For Day 1 up to and including Day 30 of non-compliance, \$1,000.00 per day
- B. For Day 31 up to and including 60 of non-compliance, \$2,000.00 per day
- C. For Day 61 and beyond of non-compliance, \$3,000.00 per day

Such payments shall be made without demand by the United States on or before the last day of the month following the month in which the stipulated penalty accrued.

40. Any disputes concerning the amount of stipulated penalties, or the underlying violation that gives rise to the stipulated penalties, that cannot be resolved by the parties pursuant to the Dispute Resolution provisions in Section IX and/or the Force Majeure provisions in Section X shall be resolved upon motion to this Court as provided in Paragraphs 31 and 32.
41. The filing of a motion requesting that the Court resolve a dispute shall stay Defendant's obligation to pay any stipulated penalties with respect to the disputed matter pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall continue to accrue from the first day of any failure or refusal to comply with any term or condition of this Consent Decree. In the event that Defendant does not prevail on the disputed issue, stipulated penalties shall be paid by Defendant as provided in this Section.
42. To the extent Defendant demonstrates to the Court that a delay or other non-compliance was due to a Force Majeure event (as defined in Paragraph 34

above), or otherwise prevail on the disputed issue, the Court shall excuse the stipulated penalties for that delay or non-compliance.

43. In the event that a stipulated penalty payment is applicable and not made on time, interest will be charged in accordance with the statutory judgment interest rate provided for in 28 U.S.C. § 1961. The interest shall be computed daily from the time the payment is due until the date the payment is made. The interest shall also be compounded annually.
44. Defendant shall make any payment of a stipulated penalty to the U.S. Attorney's Office, 300 South Fourth Street, Suite 600, Minneapolis, MN 55415 Attention Financial Litigation Unit, referencing Case Number Civil No. 07-1048 RHK/AJB. Payment shall be made in accordance with instructions provided to the Defendant by the Financial Litigation Unit of the United States Attorney's Office for the District of Minnesota. Any payments received by the United States after 4:00 p.m. (CST) will be credited on the next business day. Further, upon payment of any stipulated penalties,

Defendant shall provide written notice, at the addresses specified in Section XII of this Decree.

XII. MAIL and CONTACT INFORMATION

45. Defendant agrees to accept all mail, certified or otherwise, sent to him by the Corps or the United States Department of Justice. All notices and communications required under this Consent Decree shall be made to the parties through each of the following persons and addresses:

A. TO THE CORPS:

Molly A. McKegney
Assistant District Counsel
U.S. Army Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101
Phone: 651-290-5711

B. TO THE UNITED STATES DEPARTMENT OF JUSTICE:

United States Attorney's Office
District of Minnesota
300 South Fourth Street, Suite 600
Minneapolis, MN 55415
612-664-5600

Payments: Attention Financial Litigation Unit

Legal Issues: Patricia R. Cangemi, AUSA

C. TO DEFENDANT:

Randy Johnson
1688 23rd Street NW
Byron, MN 55920
Phone: 507-775-6330

XIII. COSTS OF SUIT

46. Each party to this Consent Decree shall bear its own costs and attorneys' fees in this action. Should Defendant subsequently be determined by the Court to have violated the terms or conditions of this Consent Decree, Defendant shall be liable for any costs or attorneys' fees incurred by the United States in any action against Defendant for noncompliance with or enforcement of this Consent Decree.

XIV. PUBLIC COMMENT

47. The parties acknowledge that after the lodging and before the entry of this Consent Decree, final approval by the United States is subject to the requirements of 28 C.F.R. § 50.7, which provides for public notice and comment. The United States reserves the right to withhold or withdraw its consent to the entry of this Consent Decree if the comments received disclose facts which lead the

United States to conclude that the proposed judgment is inappropriate, improper, or inadequate. The Defendant agrees not to withdraw from, oppose entry of, or to challenge any provision of this Consent Decree, unless the United States has notified the Defendant in writing that it no longer supports entry of the Consent Decree.

XV. CONTINUING JURISDICTION OF THE COURT

48. This Court shall retain jurisdiction over this action in order to enforce or modify the Consent Decree consistent with applicable law or to resolve all disputes arising hereunder as may be necessary or appropriate for construction or execution of this Consent Decree. During the pendency of the Consent Decree, any party may apply to the Court for any relief necessary to construe and effectuate the Consent Decree.

XVI. MODIFICATION

49. Upon its entry by the Court, this Consent Decree shall have the force and effect of a final judgment. Any modification of this Consent Decree shall be in writing, and shall not take effect unless signed by

both the United States and the Defendant and approved by the Court.

XVII. TERMINATION

50. This Consent Decree may be terminated by either of the following:

A. Defendant and the United States may at any time make a joint motion to the Court for termination of this Decree or any portion of it; or

B. Defendant may make a unilateral motion to the Court to terminate this Decree after all of the following have occurred:

1. Defendant has obtained and maintained compliance with all provisions of this Consent Decree and the CWA for twelve (12) consecutive months;

2. Defendant has paid all penalties and other monetary obligations hereunder and no penalties or other monetary obligations are outstanding or owed to the United States;

3. Defendant has certified compliance pursuant to subparagraphs 1 and 2 above to the Court and the United States; and

4. Within forty-five (45) days of receiving such certification from the Defendant, the United States has not contested in writing that such compliance has been achieved. If the United States disputes Defendant's full compliance, this Consent Decree shall remain in effect pending resolution of the dispute by the Parties or the Court.

XVIII. AUTHORITY TO ENTER CONSENT DECREE

51. Each of the undersigned representatives certify that they are fully authorized to enter into the terms and conditions of this Consent Decree on behalf of such Parties, and to execute and to bind such Parties to this Consent Decree.

IT IS SO ORDERED.

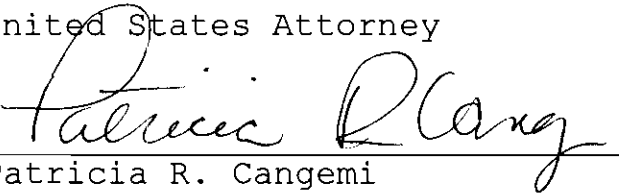
Dated and entered this _____ day of _____
2007.

RICHARD H. KYLE, Judge
United States District Court

Dated: 9/4/2007

ON BEHALF OF THE UNITED STATES:

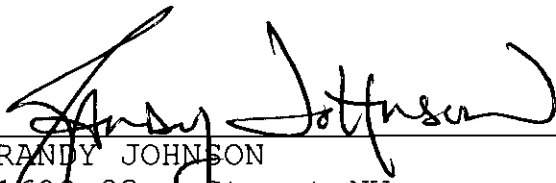
RACHEL K. PAULOSE
United States Attorney



Patricia R. Cangemi
Attorney ID Number 153527
United States Attorney's Office
600 U.S. Courthouse
300 South Fourth Street
Minneapolis, MN 55415
Telephone: (612) 664-5600
Fax: (612) 664-5788

THE DEFENDANT:

Dated: 08302007


RANDY JOHNSON
1688 23rd Street NW
Byron, MN 55920

STREAM STABILIZATION PLAN

**RANDY JOHNSON PROPERTY
TOMPKINS CREEK
OLMSTED COUNTY, MINNESOTA**

**ST. PAUL DISTRICT
U.S. ARMY CORPS OF ENGINEERS
JUNE 2007**

Randy Johnson
June 18 2007

STREAM STABILIZATION PLAN

**RANDY JOHNSON PROPERTY
TOMPKINS CREEK
OLMSTED COUNTY, MINNESOTA**

JUNE 2007

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1.0 BACKGROUND

Tompkins Creek is a tributary to the Middle Fork of the Zumbro River in northwestern Olmsted County just north of Byron, Minnesota. A section of Tompkins Creek was re-routed and filled by a property owner (Plate 1). This filled stream section is located about 500 feet upstream of 23rd Street.

The St. Paul District was asked to provide a stabilization plan for the filling and channelization that occurred on this stream reach. The plan presented here meets that purpose.

2.0 PROJECT AREA CONDITIONS

2.1 ORIGINAL STREAM CHANNEL

The original stream channel had been filled in at the time of the visit and the surface of the fill was about 20 feet above the elevation of the original stream bed. Therefore, the length and condition of the original stream channel were estimated based on maps and the condition of the stream upstream and downstream of the impacted reach. A survey rod and auto-level were used to measure the relative height between two points at the water surface at riffles upstream and downstream of the impacted reach (see Plate 1). The original stream channel length between these two points was about 270 feet with a vertical drop of 3.6 feet (slope: 1.3%). The original channel bed likely consisted of cobble riffles and pools with silt bottoms. When examining the unimpacted stream reach, it appears that the original stream channel generally would have had banks with side slopes ranging from 1v:1h (1 vertical on 1 horizontal) on outside bends to 1v:3h on inside bends. In the reach immediately upstream of the impacted reach, riffle-to-riffle spacing is about 30 feet.

2.2 RECONFIGURED STREAM CHANNEL

The stream alignment was changed by filling in the original channel and cutting a new straight channel as shown in Plate 1. The two small bends were subsequently added to the new channel. The new channelized reach length between the two height measurement points is about 250 feet, or about 20 feet shorter than the original channel length (slope: 1.4%). There is a cut through the upstream bend in the new channel that further reduces the effective channel length during flood events. There is evidence on a neighboring property downstream that water velocities increased below the channelized reach after the reconfiguration. Bank erosion and a head-cut, each being evidence of channel instability, were observed in the reconfigured channel (see Photographs 1-3).

3.0 STABILIZATION ALTERNATIVES

3.1 NO ACTION

The no-action alternative would consist of leaving the new reconfigured stream channel in its present state with no further action to improve stability and reduce erosion.

3.2 ORIGINAL STREAM CHANNEL RESTORATION

Restoration of the original channel would consist of removing all or most of the fill that was placed in and around the original channel bed. The banks would be reshaped and would also require native plantings to restore the plant community and reduce erosion. Additional rock would be needed in the channel to replace channel bed material removed during the excavation. Also, the existing reconfigured reach would be filled in to its original elevation to prevent flows from bypassing the restored channel reach.

3.3 RECONFIGURED STREAM CHANNEL STABILIZATION

The goal of this alternative is to prevent further erosion in the reconfigured stream channel by stabilizing it as much as possible. This would be accomplished with some minor bank reshaping, the installation of two grade-control structures, riprap bank protection, and vegetation establishment. The placement and design of these features are shown in Figures 1-4 and are discussed individually in detail below:

Bank Reshaping: The banks of the inside bends as shown in Figure 1 would be reshaped. The reshaped bank would have a gradual slope from the waters edge to the top of the bank as shown in Figure 3. The slope of the new bank would be no steeper than 1v:3h when measured perpendicular to the stream from the center of each bend (see Figure 1). The breach in the first bend would be filled in with the material removed during the reshaping. This reshaping would help prevent the stream from cutting through the bends during future flooding events. On banks where riprap will be installed, some minor reshaping would also be required to produce a bank slope no greater than 1v:2h.

Bank Riprap: This is a rock blanket that would be placed on the banks of outside bends in the locations shown in Figure 1 to reduce erosion. The only excavation required would be as outlined in the bank reshaping section above. The rock would be placed on the surface of the bank or stream bottom after any necessary reshaping, rather than being placed in an excavated "trough" as the grade control structures would be. The rock would be placed in the water at the toe of the bank and up the sides at least two vertical feet above the water surface as shown in Figure 4. The thickness of the riprap layer would be no less than 12 inches. Suitable rock would be an even mix, with diameters ranging from a minimum of 2.5 inches to a maximum 10 inches. A rock gradation as found in Attachment 1 or slightly larger would be acceptable. No geotextile fabric would be required on the banks under the riprap, but it would be acceptable and would provide an increased degree of erosion protection.

Grade Control Structures: These are rock liners that would be placed in the stream bed to prevent bed erosion (head-cutting). They would help prevent a head-cut from moving in and upstream of the reconfigured reach. A grade control structure would be placed at the existing head-cut in the downstream bend and also about 15 feet upstream of the upstream bend (see Figure 1). Each grade control structure would be no less than 10 feet long and would be the full width of the channel (that is, up the sides of the bank no less than 2 vertical feet above the water

surface). These structures would not raise the existing elevation of the stream bed, therefore, excavation would be required to remove a layer of bed material the same thickness as the grade control structure prior to installation (see Figure 2). The excavated material would be placed in a suitable upland site, not in the stream channel. The same size rock as used for the bank riprap would be used here.

Vegetation Establishment: After construction of the features above, disturbed and exposed areas including the high bank of the fill placed on the original stream channel would need to be stabilized with the establishment of vegetation. Consultation with an engineer or landscape architect would be required to identify best management practices and suitable plant species for the specific conditions of this site. Some possible measures that may be required for stabilization include erosion blankets, mulch, broadcast seeding, tree planting, and watering. This planting/stabilization plan would require approval from the Corps prior to construction.

4.0 ALTERNATIVE ANALYSIS

4.1 NO ACTION

Under the no-action alternative it is expected that the channel would also cut through the downstream bend in the reconfigured channel. The cuts through these bends are the result of an insufficient bend-radius length (the curve is too sharp). These cut-offs would reduce the effective channel length to about 203 feet (slope: 1.8%), or about 70 feet shorter than the original channel length.

Because the channel slope has been increased, and will increase further when the bends are cut off, the stream has more energy available to erode sediment. This would lead to increased bank and stream bed erosion, which is already evident in the channelized reach. Photographs from the site show bank erosion and a head cut at the downstream side of the lower bend. The stream would continue to erode the banks, widen the channel, and migrate to add new bends in order to increase the channel length (decrease slope) until a stable condition is reached. Because of the steep side slopes produced by the fill activity on the left descending side of the channel and the steep natural valley slope on the other, there is little room for the channel to change course without eroding a large amount of sediment. Sediment moving downstream would impact Tompkins Creek downstream to its junction with the Zumbro River by filling in pools and covering rocky habitat used by fish and invertebrates.

4.2 ORIGINAL STREAM CHANNEL RESTORATION

Under the channel restoration alternative, in the short term, the construction activities would result in some sediment washing downstream, filling pools and covering rocky substrate. However, this sediment would be washed out by subsequent flooding events and the restored channel reach would not deliver more sediment than it had prior to the filling activity. In the long-term, the restored reach would function as it had prior to the filling activity and the effects to Tompkins Creek would be no different than if the channel was never filled.

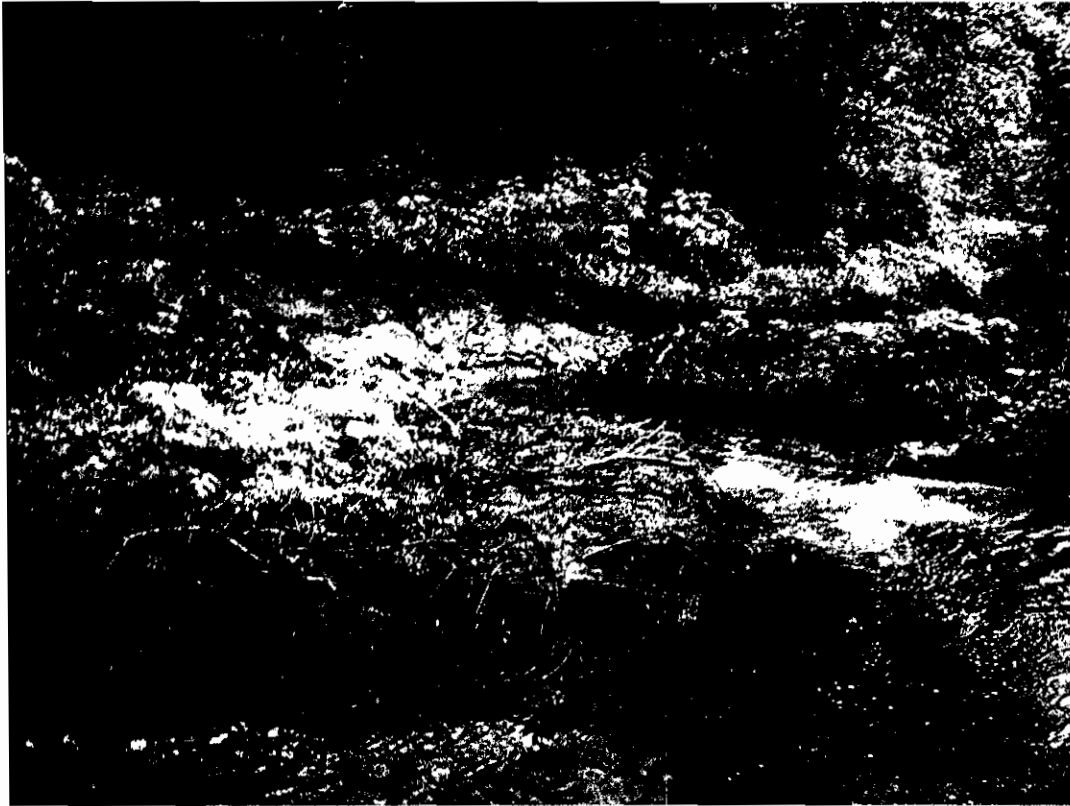
4.3 RECONFIGURED STREAM CHANNEL STABILIZATION

Under the channel stabilization alternative, the short-term impacts would likely be similar to those under the restoration alternative. After construction, there may be some minor erosion as the channel adjusts to the new structures. In the long-term, the reconfigured stream reach should remain relatively stable, but it is likely that some maintenance of the rock structures would be required periodically. The reason for this is that large flood events may still erode the banks and displace some of the rock. With the available information it is not possible to know how often some work may be required, but once every ten years may be in the realm of possibilities.

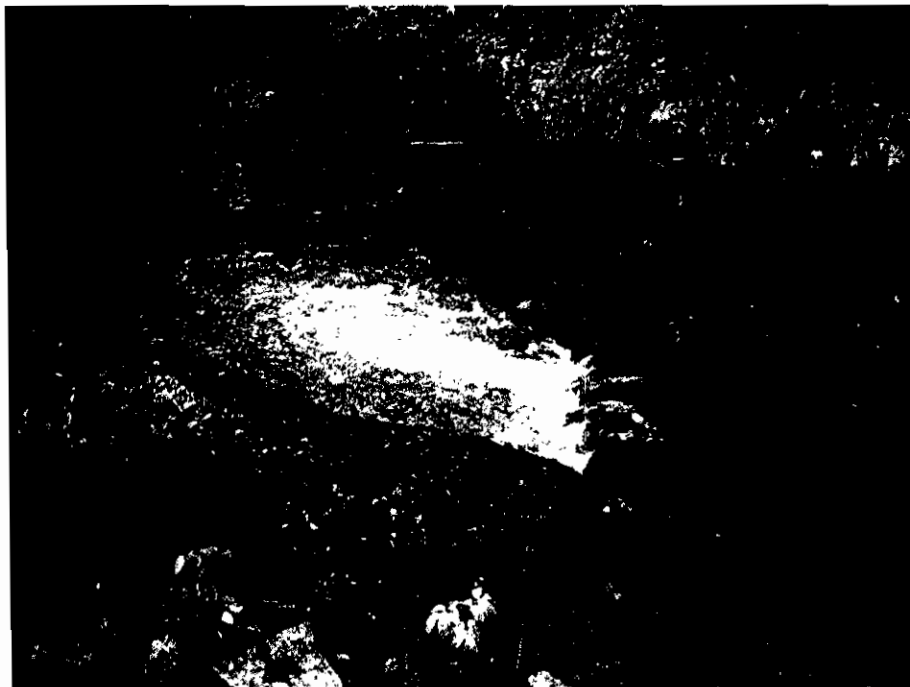
5.0 RECOMMENDATION

To minimize the impacts of the channel reconfiguration reviewed here, the preferred alternative is the original stream channel restoration. This would fully restore this reach of Tompkins Creek and stabilize it to the condition it was in prior to the activity. However, in light of the fact that there is a large amount of fill covering the original channel bed and the amount of effort required to restore the channel in this manner would be large, an acceptable solution to the problem would be to implement the stream channel stabilization alternative presented above. If this alternative is implemented as discussed here, it is believed that the stream channel would be stabilized and further erosion and channel migration would be reduced to an acceptable level.

Photograph 1. Downstream of Reconfigured Channel Looking Upstream.



Photograph 2. Head-Cut in Downstream Bend

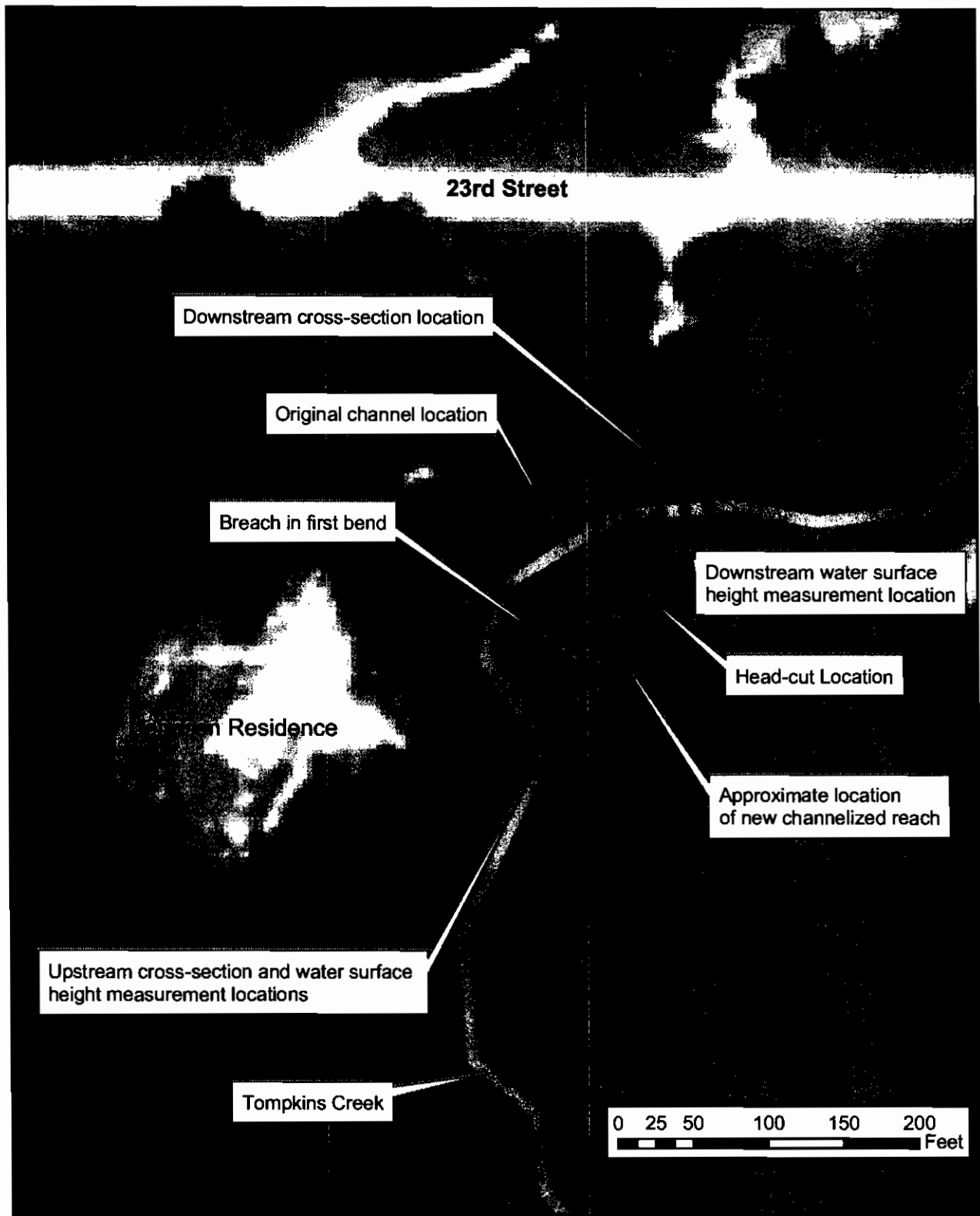


Photograph 3. Bank of Downstream Outside Bend



Photograph 4. Upstream of Reconfigured Stream Reach Looking Upstream





St. Paul District
Environmental
US Army Corps
of Engineers

Tompkins Creek - Johnson Mitigation

Photo - 2002 Farm Service Agency, Olmstead County

Plate 1

Figure 1. Stream Stabilization
Plan-View

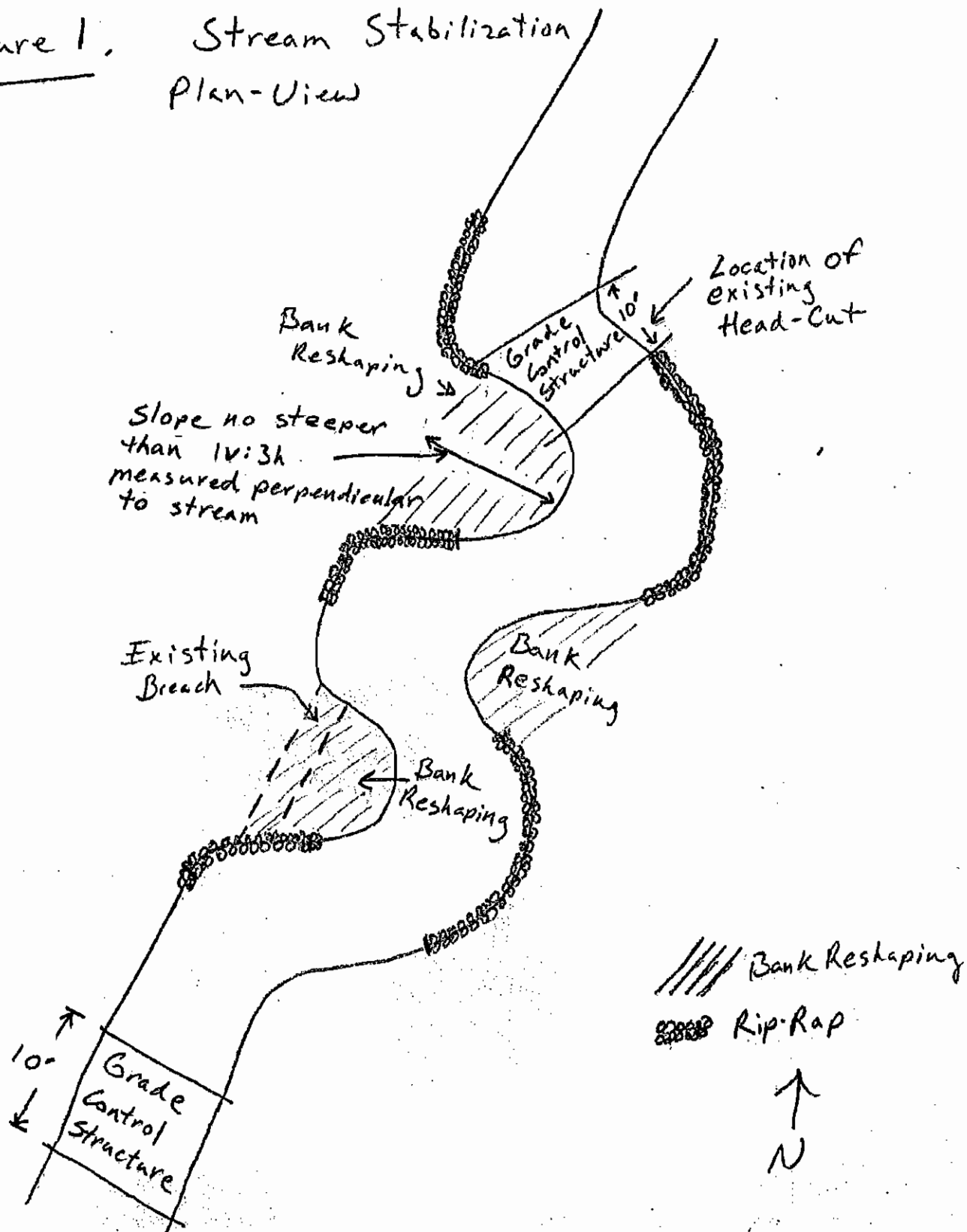


Figure 2. Grade Control Structure Cross-Section (Typical)

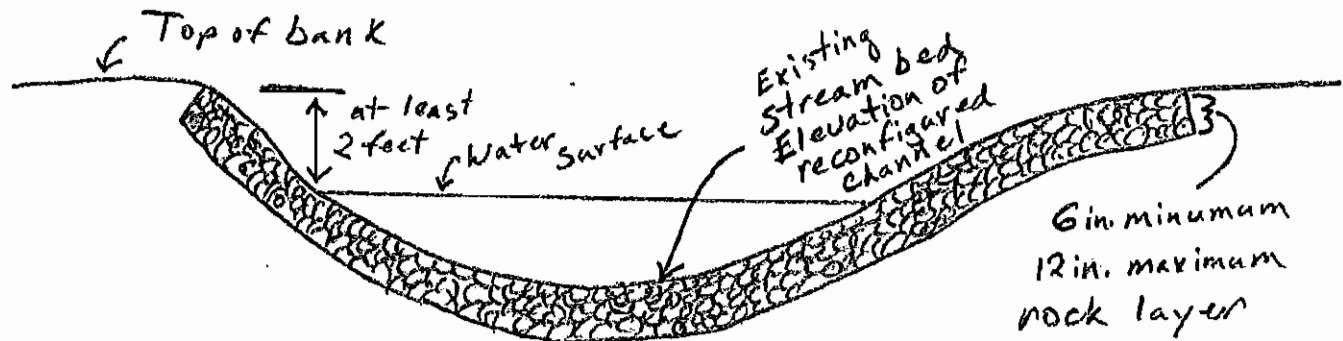


Figure 3. Bank Reshaping Cross-Section (Typical)

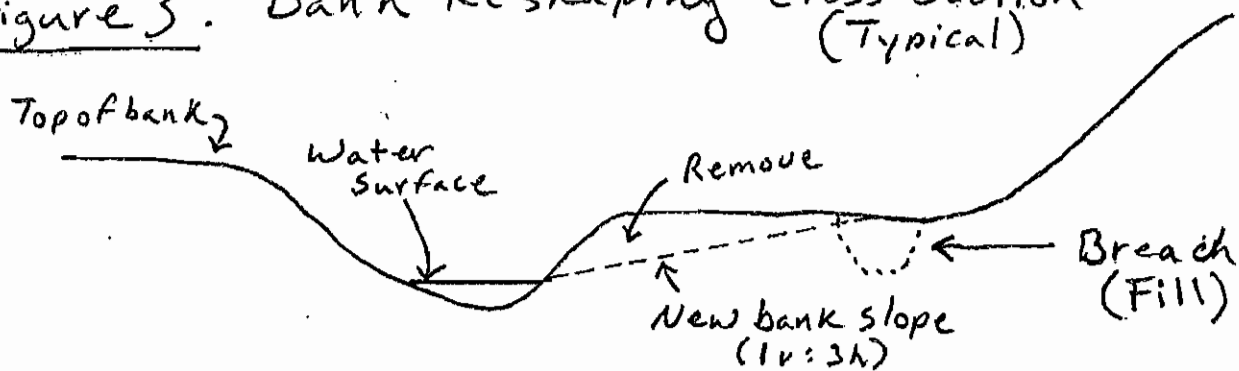
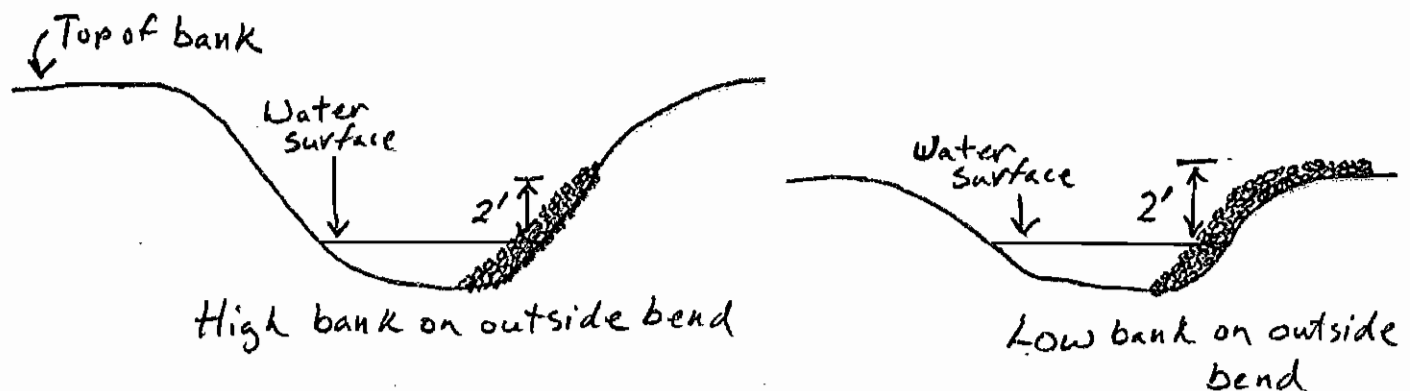


Figure 4. Rip-Rap Cross-Sections (2) (Typical)



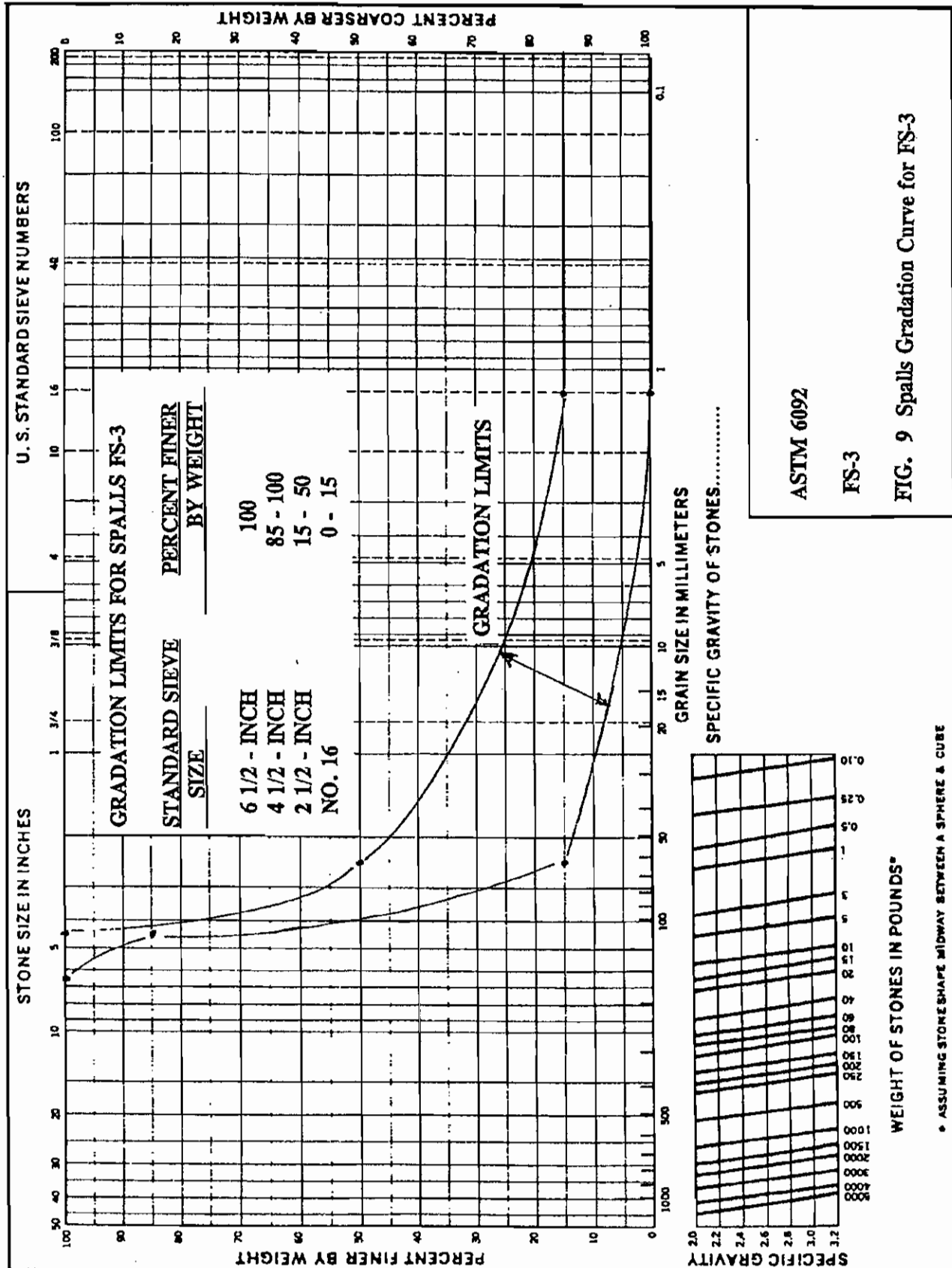


FIG. 9 Gradation Limits for Spalls FS-3

Attachment 1.